

REMARKS/ARGUMENTS

After the foregoing amendment, Claims 25-33 are active in the present application. Claims 25, 28 and 31 have been amended. The amendment further clarifies the claims by changing the processing limitation to a structural limitation. Reconsideration of the present application is respectfully requested in view of the amendments and following remarks.

The Examiner has rejected Claim 28 under 35 U.S.C. § 112. Claim 28 has been amended to require that “the first insulating film contains the boron impurity to decompose organic components of the organic SOG film”, which limits the function of the boron impurity. This amendment is supported at least at page 6, lines 15-19 and page 17, lines 26-28 of the present specification. Accordingly, Applicant submits that Claim 28 is in condition for allowance.

Claims 25-33 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Okumura (U.S. Patent No. 4,984,055). Applicant respectfully traverses this rejection.

The Examiner states that Okumura et al's layer (13, 14) functions as a passivation film because the layer covers the surface (the top surface) of the interlayer insulating film (12) and the surface (bottom and side surfaces) of the wiring (16). However, as shown in Figs. 7 and 17 of the present specification, and as required by the claims, the passivation film (16) covers not the bottom and side surfaces of the wiring (10) but the top surface of the wiring (10). As is generally understood, the passivation film serves to protect the device by covering the top surface of the device. The passivation film inherently functions to insulate and protect the wiring. For this purpose, the passivation film of the present invention, as required by the claims, covers the top surface or the wiring. In contrast, Okumura et al. does not disclose a passivation film covering the

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top surface of the wiring and insulating and protecting the wiring. The insulation layer disclosed in Okumura is an interlayer insulating film. Okumura does not disclose “an interlayer insulating film,” “wirings located on the interlayer insulating film,” (emphasis added) and “a passivation film covering the surface of the interlayer insulating film and the wiring,” (emphasis added) as required by the claims. Accordingly, Applicant submits that Claims 25-33 are allowable over the cited reference.

The Examiner pointed out that Claims 25 and 32 include the processing limitations “a modified SOG film formed by implanting boron impurity into a organic/inorganic SOG film”. Claims 25 and 31 have been amended to recite “a modified Spin-on-Glass (SOG) film of an organic/inorganic SOG film, wherein the modified SOG film contains boron impurity” in order to remove the processing limitations.


Attached hereto is a marked up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version With Markings to Show Changes Made."**

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Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

25. (Five Times Amended) A semiconductor device comprising:

a semiconductor substrate;

an interlayer insulating film located on the semiconductor substrate;

wirings located on the interlayer insulating film; and

5 a passivation film covering the surface of the interlayer insulating film and the wirings, including a first insulating film that is a modified Spin-on-Glass (SOG) film [containing] of an organic SOG film, wherein the modified SOG film contains boron impurity [implanted into an organic SOG film to form the modified SOG film].

28. (Thrice Amended) The semiconductor device according to Claim 25, wherein the first insulating film [includes] contains the boron impurity to decompose organic components [decomposed by said boron impurity] of the organic SOG film.

31. (Five Times Amended) A semiconductor device comprising:

a semiconductor substrate;

an interlayer insulating film located on the semiconductor substrate;

wirings located on the interlayer insulating film; and

5 a passivation film covering the surface of the interlayer insulating film and the wirings, including a first insulating film that is a modified Spin-on-Glass (SOG) film [containing] of an inorganic SOG film, wherein the modified SOG film contains boron impurity [implanted into an inorganic SOG film to form the modified SOG film].